

Inverse Relationships

Reporting Category Number and Number Sense

Topic Using inverse relationships

Materials

- Pairs of number cubes
- Roll Me a Related Fact sheet (attached)

Vocabulary

inverse relationship, factor, number sentence, related facts

Student/Teacher Actions (what students and teachers should be doing to facilitate learning)

1. Explain to students that they will be exploring inverse relationships between addition and subtraction number sentences and between multiplication and division number sentences. Demonstrate a related fact, using the numbers 5, 6, and 11. Hold a discussion about what different addition and subtraction number sentences could be made using the given numbers. Have students discuss the possibilities with partners or in small groups, and then have a representative from each group share suggestions with the class.
2. Discuss how subtraction number sentences use the same three numbers as addition number sentences but are represented in an inverse fashion.
3. Repeat the process, using the numbers 5, 6, and 30, and have students discuss what different multiplication and division number sentences could be made. Discuss the inverse relationship between multiplication and division.
4. Have students practice creating related facts, showing the inverse relationship between facts. Distribute copies of the Roll Me a Related Fact sheet and pairs of number cubes. Have students roll a pair of number cubes and use the two rolled numbers to come up with a third number by adding or multiplying them. Then, have them use the three numbers to create facts with their inverses (related facts) and record them on the fact sheet.

Assessment

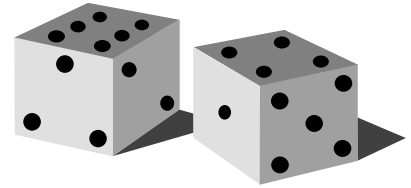
- **Questions**
 - What are related facts?
 - What is the inverse operation of addition? Of multiplication?
 - Why is it helpful to know the inverse of a number sentence?
- **Journal/Writing Prompts**
 - Explain how knowing the inverse of a number sentence can help you solve a word problem.

- Write your own word problem using related facts of your choice.
- **Other**
 - Have students repeat the activity by drawing dominoes from a bag or selecting number cards from a deck to generate the first two of three numbers.
 - Provide students with three numbers, and have them determine whether or not the numbers can be used to create addition/subtraction related facts or multiplication/division related facts. If they determine that the numbers can create related facts, have students write the related facts.

Strategies for Differentiation

- Use math aids to assist students with basic facts.

Roll Me a Related Fact



Name: _____ Date: _____

Roll two number cubes, and record the two numbers.

Add (+) or multiply (\times) the two numbers to come up with a third number, and record it.

Complete the related fact using addition/subtraction or multiplication/division.

Record the number sentences for each related fact on the lines provided.

1. _____

2. _____

3. _____

4. _____

